

CLAIMS

What is claimed is:

1. A system comprising:
an input/output (I/O) controller to receive request cycles from a requesting device, the I/O controller including a completion queue; and
a patch module coupled to the completion queue, the patch module to capture an incoming cycle received by the I/O controller and to determine if the captured incoming cycle matches one or more of preprogrammed trigger conditions, wherein the patch module can work around a captured non-posted request cycle by controlling header information loaded into the completion queue and by instructing the completion queue whether or not to discard a completion received from a designated end-device.
2. The system of claim 1, wherein if a captured non-posted cycle causes a patch trigger, the patch module can load the completion queue with unmodified header information obtained from the captured non-posted cycle.
3. The system of claim 2, wherein the patch module can send a modified non-posted cycle to a destination device.
4. The system of claim 3, wherein the patch module can return a completion associated with the modified non-posted cycle to the requesting device.
5. The system of claim 1, wherein if a captured non-posted cycle causes a patch trigger, the patch module can load the completion queue with modified header obtained from a non-posted cycle modified by the patch module.
6. The system of claim 5, wherein the patch module can send the modified non-posted cycle to a destination device.
7. The system of claim 6, wherein the patch module can return a completion associated with the modified non-posted cycle to the requesting device.

8. The system of claim 1, wherein if a captured non-posted cycle causes a patch trigger, the patch module can load the completion queue with header information obtained from a new cycle generated by the patch module.

9. The system of claim 8, wherein the patch module can send the new cycle to a destination device.

10. The system of claim 9, wherein the patch module can instruct the completion queue to discard a completion associated with the new cycle.

11. A method comprising:
receiving an incoming cycle from a requesting device;
determining if the received incoming cycle matches one or more of
preprogrammed trigger conditions;
determining if the received incoming cycle is a non-posted cycle;
if the received incoming cycle matches a trigger condition and is a non-posted cycle, loading a completion queue with one of following (1) unmodified header information from the captured non-posted cycle, (2) modified header information associated with a modified non-posted cycle, or (3) header information associated with a new cycle generated in response the received incoming cycle.

12. The method of claim 11, further comprising:
generating a modified non-posted cycle in response to a matched trigger condition;
sending the modified non-posted cycle to a destination device.

13. The method of claim 12, further comprising:
returning a completion associated with the modified non-posted cycle to the requesting device.

14. The method of claim 11, further comprising:
generating a new request cycle in response to a matched trigger condition;
sending the new request cycle to a destination device.
15. The method of claim 14, further comprising:
discarding a completion associated with the new request cycle received from
the destination device.
16. A patch module comprising:
a trigger-matching logic to capture an incoming cycle and determine if the
captured incoming cycle matches one or more of trigger conditions; and
a control logic coupled to the trigger-matching logic to select a set of
instructions upon detection of at least one matched trigger condition and to execute
operations as specified by the selected set of instructions, wherein if the captured cycle
that caused a trigger is a non-posted cycle, the control logic instructs a completion
queue to load the completion queue with one of the following (1) unmodified header
information from the captured non-posted cycle, (2) modified header information
associated with modified non-posted cycle, or (3) header information associated with a
new cycle generated in response the captured cycle.
17. The patch module of claim 16, wherein the trigger-matching logic and
the control logic are incorporated within an Input/Output (I/O) chip.
18. The patch module of claim 16, wherein the control logic generates a
modified non-posted cycle based on the at least one matched trigger condition and to
send the modified non-posted cycle to a destination device.
19. The patch module of claim 18, wherein the control logic instructs the
completion queue whether or not to return a completion associated with the modified
non-posted cycle to the requesting device.

20. The patch module of claim 16, wherein the control logic generates a new cycle based on the at least one matched trigger condition and to send the new cycle to a destination device.

21. A machine-readable medium that provides instructions, which when executed by a processor cause the processor the perform operations comprising:

- receiving an incoming cycle from a requesting device;
- determining if the received incoming cycle matches one or more of preprogrammed trigger conditions;
- determining if the received incoming cycle is a non-posted cycle;
- if the received incoming cycle matches a trigger condition and is a non-posted cycle, loading a completion queue with one of following (1) unmodified header information from the captured non-posted cycle, (2) modified header information associated with modified non-posted cycle, or (3) header information associated with a new cycle generated in response the received incoming cycle.

22. The machine-readable medium of claim 21, wherein the operations performed by the processor further comprise:

- generating a modified non-posted cycle in response to a matched trigger condition;
- sending the modified non-posted cycle to a destination device.

23. The machine-readable medium of claim 22, wherein the operations performed by the processor further comprise:

- returning a completion associated with the modified non-posted cycle to the requesting device.

24. The machine-readable medium of claim 21, wherein the operations performed by the processor further comprise:

- generating a new request cycle in response to a matched trigger condition;
- sending the new request cycle to a destination device; and
- discarding a completion associated with the new request cycle received from the destination device.